In the Claims:

Claims 1-49. (Canceled).

Please add the claims:

50 - 55, as detailed below

What is claimed is:

50 (New). A new method for synthesizing a chlorin e6-transferrin, consisting essentially of:

[a] preparing a PB/CHAPS buffer, comprising an aqueous solution containing sodium phosphate and 3-[(3-cholidamidopropyl) dimethylammonio]- 1-propanesulfonate, wherein said buffer is further comprising said aqueous solution having a pH of about 7.4 and,

[b] preparing a transferrin solution, by using a process comprising one wherein a transferrin is dissolved in said PB/CHAPS buffer from step [a], wherein said transferrin is comprising human iron-saturated transferrin and,

[c] preparing an EDC-chlorin *e*6, by using a process comprising one wherein chlorin *e*6 in said PB/CHAPS buffer from step [a] is reacted with 1-Ethyl-3-[3-dimethylaminopropyl] carbodiimide hydrochloride and,

[d] preparing an immobilized transferrin, by mixing said transferrin solution from step [b] with a QAE-sephadex, wherein said QAE-sephadex is comprising quaternary aminoethyl-sephadex suspended in PB/CHAPS buffer from step [a], and

[e] forming an immobilized chlorin *e*6-transferrin, by exposing said immobilized transferrin from step [d] to said EDC-chlorin *e*6 from step [c] in said PB/CHAPS buffer from step [a] and,

[f] forming a washed immobilized chlorin *e*6-transferrin by a process comprising one wherein all un-reacted soluble components-from said immobilized chlorin *e*6-transferrin from step [e] are removed and,

[g] forming a chlorin *e*6-transferrin, by a process comprising one wherein the eluting and separating of a soluble material from said washed immobilized chlorin *e*6-transferrin from step [f] is performed, wherein said soluble material is comprising said chlorin *e*6-transferrin.

51 (New). The method of claim 50, wherein the preparing of said EDC-chlorin *e*6 from claim 50 step [e] is performed using a process which is consisting essentially of:

[a] preparing a buffer, wherein said buffer is comprising: an aqueous solution comprising sodium phosphate mixed with 3-[(3-cholidamidopropyl) dimethylammonio]- 1-propanesulfonate, wherein said buffer is further comprising said aqueous solution adjusted to a pH of about 7.2 and,

[b] preparing a mixture of a chlorin *e*6 solution and an EDC solution, wherein said chlorin e6 solution is comprising chlorin e6 dissolved in said buffer from step [a], wherein said EDC solution is comprising 1-Ethyl-3-[3-dimethylaminopropyl] carbodiimide hydrochloride dissolved in water and,

[c] exposing said mixture from step [b] to a QAE-sephadex, wherein said QAE-sephadex is comprising quaternary aminoethyl-sephadex suspended in said buffer from step [a], and,

[d] separating the desired activated chlorin *e*6 from said QAE-sepharose, wherein the desired activated chlorin *e*6 remains unbound to said QAE-sepharose, and un-desired, un-reacted chlorin *e*6 binds to the QAE-sepharose.

52 (New). The method of claim 50, wherein the removing of free chlorin e6 from said chlorin *e*6-transferrin from claim 50 step [g] is performed by a binding to a negatively charged matrix, consisting essentially of:

[a] the preparing of a low-pH placed chlorin *e*6-transferrin by a process comprising placing said chlorin *e*6-transferrin from claim 50 step [g] in a low pH solution, wherein said low pH solution is comprising: an aqueous sodium acetate solution having a pH of about 4.8 and,

[b] the preparing of a low pH-equilibrated negatively-charged matrix, by a process comprising one wherein sulfo-propyl sepharose is placed in said low-pH solution from step [a] and,

[c] the preparing of a negatively-charged matrix-immobilized chlorin e6-transferrin, by combining said low-pH placed chlorin *e*6-transferrin from step [a] with said low pH-placed negatively-charged matrix from step [b] and,

[d] the forming of a washed negatively-charged matrix-immobilized chlorin e6-transferrin by a process comprising one wherein all un-reacted soluble components from said negatively-charged matrix-immobilized transferrin from step [c] are removed and,

[e] the forming of an unconjugated chlorin *e*6-free chlorin *e*6 transferrin by a process comprising one wherein the eluting of chlorin *e*6-transferrin from said washed negatively-charged matrix-immobilized chlorin *e*6-transferrin from step [d] is performed.

53 (New). The method of claim 50, wherein the using of said chlorin e6-transferrin from claim 50 [g] is by a process which comprises the delivering of said chlorin e6-transferrin from claim 50 [g] into a system, wherein said system is selected from a group consisting essentially of: tissue cultures, electrophoresis gels, and living organisms.

54 (New). The method of claim 53, wherein the using of said chlorin e6-transferrin from claim 50 step [g] is by a process which comprises one wherein chlorin e6-transferrin-binding entities residing in said system from claim 53 are damaged or destroyed by exposure to light.

55 (New). The method of claim 54, wherein the using of said chlorin e6-transferrin from claim 50 step [g] is by a process wherein said transferrin-binding entities from claim 48, are biological cells.